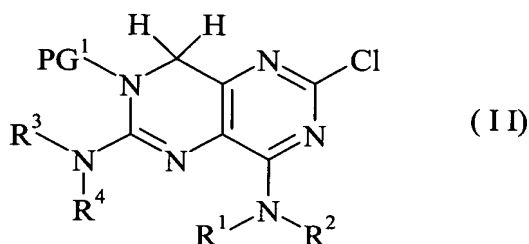


What is claimed is:

1. A 2-Chloro-4,6-diamino-7,8-dihydropyrimido[5,4-*d*]pyrimidine of the formula II



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wherein

R¹ denotes a hydrogen atom or a C₁-C₆ alkyl group,

R² denotes an optionally substituted C₆-C₁₀ aryl group,

R³ denotes a hydrogen atom or a C₁-C₆ alkyl group, and

- 10 R⁴ denotes a hydrogen atom or an optionally substituted C₁-C₆ alkyl, C₃-C₆ alkenyl, C₃-C₈ cycloalkyl or a 4- to 7-membered, nitrogen-containing heterocyclyl group, or
- R³ and R⁴ together with the nitrogen atom linked to them denote an optionally substituted heterocyclyl group,

and

- 15 PG¹ denotes a C₁₋₆ alkanoyl group.

2. A compound according to claim 1, wherein R¹ denotes hydrogen or methyl.

3. A compound according to claim 1, wherein R² denotes phenyl which may be
20 substituted by one or two halogen atoms, particularly fluorine and/or chlorine.

4. A compound according to claim 3, wherein R² denotes 3-chloro-4-fluorophenyl.

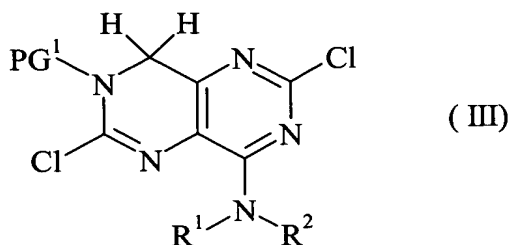
5. A compound according to claim 1, wherein R³ denotes hydrogen or methyl.

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6. A compound according to claim 1, wherein R⁴ denotes a 5- or 6-membered, nitrogen-containing heterocycle which may be substituted by one or two C₁₋₃-alkyl groups.

7. A compound according to claim 6, wherein R⁴ denotes 1-methylpiperid-4-yl.
8. A compound according to claim 1, wherein R³ and R⁴ together with the enclosed
5 nitrogen atom form a 5- or 6-membered, nitrogen-containing heterocycle which may be substituted by one or two groups selected from among amino, C₁₋₃-alkyl and di-(C₁₋₃-alkyl)-amino-C₁₋₃-alkyl.
9. A compound according to claim 8, wherein R³ and R⁴ together with the enclosed
10 nitrogen atom form a 5- or 6-membered, nitrogen-containing heterocycle which is substituted by an amino, methyl or diethylaminomethyl group.
10. A compound according to claim 8, wherein R³ and R⁴ together with the enclosed
15 nitrogen atom form a 4-amino-4-methylpiperid-1-yl group.
11. A compound according to claim 1, wherein PG¹ denotes acetyl

12. A 4-amino-2,6-dichloro-7,8-dihydropyrimido[5,4-*d*]pyrimidine of the formula III



wherein

R¹ denotes a hydrogen atom or a C₁-C₆ alkyl group, and

- 5 R² denotes an optionally substituted C₆-C₁₀ aryl group,

, and

PG¹ denotes a C₁-₆ alkanoyl group.

13. A compound according to claim 12, wherein R¹ denotes hydrogen or methyl.

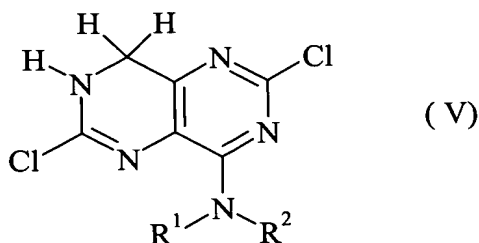
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14. A compound according to claim 12, wherein R² denotes phenyl which may be substituted by one or two halogen atoms, particularly fluorine and/or chlorine.

15. A compound according to claim 12, wherein R² denotes 3-chloro-4-fluorophenyl.

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16. A 4-amino-2,6-dichloro-7,8-dihydropyrimido[5,4-*d*]pyrimidine of the formula V,



wherein

R¹ denotes a hydrogen atom or a C₁-C₆ alkyl group, and

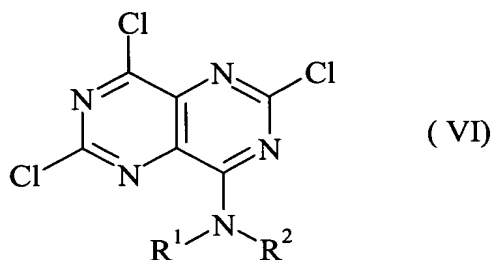
- 5 R² denotes an optionally substituted C₆-C₁₀ aryl group.

17. A compound according to claim 16, wherein R¹ denotes hydrogen or methyl.

18. A compound according to claim 16, wherein R² denotes phenyl which may be
10 substituted by one or two halogen atoms, particularly fluorine and/or chlorine.

19. A compound according to claim 16, wherein R² denotes 3-chloro-4-fluorophenyl.

20. A 4-amino-2,6,8-trichloropyrimido[5,4-*d*]pyrimidine of the formula VI,



wherein

R¹ denotes a hydrogen atom or a C₁-C₆ alkyl group, and

- 5 R² denotes an optionally substituted C₆-C₁₀ aryl group.

21. A compound according to claim 20, wherein R¹ denotes hydrogen or methyl.

22. A compound according to claim 20, wherein R² denotes phenyl which may be
10 substituted by one or two halogen atoms, particularly fluorine and/or chlorine.

23. A compound according to claim 20, wherein R² denotes 3-chloro-4-fluorophenyl.